

WEST BENGAL POLLUTION CONTROL BOARD

'Paribesh Bhawan'
Bldg. No. - 10A, Block - LA, Sector-III
Salt Lake City, Kolkata-700 098



Consent Letter Number :

Memo Number : 01/2S(CON)-2316/2008(Pt-I)

Date : 28/01/2019

Consent to Operate

under

Section 25 & 26 of the Water (Prevention and Control of Pollution) Act, 1974 and
Section 21 of the Air (Prevention and Control of Pollution) Act, 1981

The West Bengal Pollution Control Board (hereinafter referred to as State Board) under the provisions of Section 25 & 26 of the Water (Prevention and Control of Pollution) Act, 1974, as amended and Section 21 of the Air (Prevention and Control of Pollution) Act, 1981, as amended and Rules and Orders made thereunder, hereby grants its consent to :

M/s. West Bengal Waste Management Ltd.

WEST BENGAL

(Address of Regd. office/Head/Office/City Office)

(hereinafter referred to as Applicant) for its unit located at J.L.No. 103 & 104, Mouza - Purba

Srikrishnapur, P.S. Sutahata, Dist. Purba Medinipur, Pin:- 721 635.

(Detailed address of the manufacturing unit)

for a period from up to 28/02/2023

to operate the industrial unit and to discharge liquid effluent and to emit gaseous effluent from the premises/land of the industrial unit, in accordance with the conditions as mentioned in the Annexure to this consent letter provided on any day at any instance the quantity and quality of liquid discharge and gaseous emission shall not exceed the permissible limit as specified in the Table I & II of this consent letter and in the Environmental (Protection) Act, 1986.

Breach of the conditions and / or failure to comply with the directions as set out in the Annexure shall render the applicant liable for prosecution under the provisions of the Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981.

The State Board reserve the right to revoke, withdraw or make any reasonable variation / change / alter the conditions of this consent letter giving one month's notice to the applicant.

Seal

For and on behalf of the State Board

(Member Secretary/Chief Engr. / Sr. Env. Engr. / Env. Engr. / Asst. Env. Engr.)

Chief Engineer

West Bengal Pollution Control Board

28.1

ANNEXURE

Consent to M/s. West Bengal Waste Management Ltd.
 for its unit at J.L. No. 103 & 104, Mouza - Purba Srikrishnapur, P.S. Sutahata,
Dist. Purba Medinipur - 721 635.

Conditions :

01. This Consent is valid for the manufacture of :-

Sl. No.	Name of major products and by-products	Quantity manufactured per annum
01	Bailing of waste paper	20,000.0
02	Plastic granules from waste plastic	20,000.0
03		
04		
05		
06		
07		
08		
09		
10		
11		
12		

02. The Applicant shall remain responsible for quantity and quality of liquid effluent and air emissions.
03. Daily discharge of industrial liquid effluent shall not exceed Nil KL.
04. Daily discharge of domestic liquid effluent shall not exceed Nil KL.
05. Daily discharge of mixed (industrial & domestic) liquid effluent shall not exceed Nil KL.
06. The Applicant shall discharge liquid effluent to(place of discharge)
 throughnos. outlets / outfalls.
07. To bring into any altered or new outlet/outfall or to change the place of discharge, the Applicant shall have to inform the Board and obtain prior permission of the Board in this effect.
08. The Applicant shall provide comprehensive facility for treatment of industrial liquid waste and domestic liquid waste (sewage, sullage and liquid effluent generated from canteen), and operate and maintain the same continuously so that the quality of final effluent conforms to the Standard as given in Table-I in page 03.

(Member Secretary/Chief Engr./ Sr. Env. Engr. / Env. Engr. / Asst. Env. Engr.)

Chief Engineer

West Bengal Pollution Control Board

Continued.....

Consent to M/s. West Bengal Waste Management Ltd.

for its unit at J.L. No. 103 & 104, Mouza - Purba Srikrishnapur, P.S. Sutahata,

Dist. Purba Medinipur, Pin: - 721 635.

11. The *Applicant* shall install suitable device for measuring the volume of water consumed for different purposes as mentioned above giving correct result to the satisfaction of the *State Board*.
12. All the stacks connected to various sources of emissions must be designated by numbers such as S-1, S-2, S-3, etc., and this must be painted/displayed to facilitate identification.
13. The *Applicant* shall install comprehensive control system consisting of pollution control equipment as is warranted with reference to generation of air emissions and operate and maintain the same continuously so as to achieve the level of pollutants of the *Standard* as given in Table-II below :

Table-II

Stack No.	Stack height from G.L. (in mts.)	Stack attached to (sources and control system, if any):	Volume Nm ³ /hr.	Velocity of gas emission m/sec	Concentrations of parameters not to exceed				Frequency of emission sampling
					SPM (mg/Nm ³)	CO (%v/v)			
S-1									
S-2									
S-3		Refer to Annexure							
S-4									
S-5									
S-6									
S-7									
S-8									
S-9									
S-10									

(Member-Secretary/Chief Engr./ Sr. Env. Engr. / Env. Engr. / Asst. Env. Engr.)

Chief Engineer

West Bengal Pollution Control Board

Continued.....

(5)

Consent to M/s. West Bengal Waste Management Ltd.
for its unit at J.L. No. 103 & 104, Mouza - Purba Srikrishnapur, P.S. Sutahata,
Dist. Purba Medinipur, Pin:- 721 635.

14. The Applicant shall provide ports in the stack(s) and other necessary permanent facilities such as ladder, platform, etc. for monitoring/sampling the air emissions and the same shall be made available for inspection and use by the State Board's staff as well as State Board's authorised agencies.
15. The Applicant shall observe the following fuel consumption pattern :-

Sl. No	Type of fuel	Quantity consumed per day	Fuel burning operation where the fuel is used
01	Diesel	---	500 KVA - 01 No. 125 KVA - 02 nos.
02	Diesel	20 Lts.	CHW & CBMW Incl narater
03			
04			
05			

16. The Applicant shall maintain the generation and treatment/disposal of non-hazardous solid waste as specified below :-

Type of waste	Quantity	Treatment	Disposal
--	Refer to Annexure		--

17. The Applicant shall take adequate measures for control of noise levels from its own sources within the premises within the limit given below :-

Time	Limit in dB(A) L_{eq}
Day Time (06 a.m. to 10 p.m.)	65
Night Time (10 p.m. to 06 a.m.)	55

18. The Applicant shall at all times maintain good house-keeping, proper working order, and operate efficiently for control of pollution from all sources so as not to cause nuisance to surrounding areas/inhabitants and to achieve compliance with the terms and conditions of the consent.
19. The Applicant shall bring about at least 33% of the available open land under the green coverage / plantation.
20. The Applicant shall provide for an alternate electric power source sufficient to operate all pollution control facilities installed by the Applicant to maintain compliance with the terms and conditions of the consent. In absence of such an alternate electric power source, the Applicant shall stop, reduce or otherwise control production to abide by the terms and conditions of the Consent regarding pollution level.
21. The Applicant shall install a separate energy meter showing the consumption of energy for operation of pollution control devices.
22. The Applicant shall ensure that fugitive emissions from the activity are controlled so as to maintain clean and safe environment in and around the factory premises.
23. The Applicant shall provide drainage system for conveying industrial and domestic liquid waste. Storm-water drain shall be kept separate from the drainage system meant for industrial and domestic liquid waste

(Member-Secretary/Chief Engr./ Sr. Env. Engr. / Env. Engr. / Asst. Env. Engr.)

Chief Engineer

West Bengal Pollution Control Dept. Continued.....

Consent to M/s. West Bengal Waste Management Ltd.

for its unit at J.L. No. 103 & 104, Mouza - Purba Srikrishnapur, P.S. Sutahata,
Dist. Purba Medinipur, Pin: 721 635.

24. The *Applicant* shall maintain a separate register showing consumption of chemicals used in pollution control systems.
25. The *Applicant* shall get the samples of hazardous wastes/leachates analysed at least once in from the laboratory recognised of the West Bengal Pollution Control Board and ensure that they conform to the limits stipulated. Test reports shall be sent to the Board.
26. The *Applicant* shall provide adequate and safe facility for collection of air, waste water and solid waste samples by the *State Board's* staff as well as *State Board's* authorised agencies.
27. The *Applicant* shall submit to the *State Board* by the 30th September of every year the Environmental Statement Report for the financial year ending 31st March of the current year in the prescribed form (Form -V) as required under the provisions of rule 14 of the Environment (Protection) [Second Amendment] rules, 1992.
28. The *Applicant* shall allow the *State Board* to enter into the applicant's premises at any reasonable time to inspect the pollution control systems as well as monitoring and measuring devices in connection with prevention & control of pollution.
29. The *Applicant* shall maintain an Inspection Book in the factory premises which shall be made available to Officers & employees of the *State Board* for inspection, review and to write down any direction or observation as is deemed necessary during the inspection from time to time.
30. The *Application* shall furnish to the *State Board* all information in respect of quality, quantity, rate of discharge, place of discharge of liquid effluent and air emissions.
31. The *Applicant* shall maintain adequate number of qualified and trained personnel among his staff for proper maintenance and operation of the effluent treatment and / or emission control devices and for overall environment management of the industry.
32. The *Applicant* shall have to make registration for the use of groundwater if any, with Central Ground Water Authority.
33. The *Applicant* shall intimate to the *State Board* immediately of any occurrence or apprehension of occurrence of discharge of any poisonous, noxious or pollutants in excess of quality as well as quality as mentioned earlier to any receiving water body/receiving system or to atmosphere owing to accident or other unforeseen incident/event including natural disaster. The *Applicant* Shall (i) take all steps adequate to prevent such accident discharge/release of poisonous, noxious or pollutants and to limit their consequences to persons and the environment, (ii) provide to the persons working on the site with the information, training and equipment including antidotes necessary to ensure their safety and mitigate the accidental release of poisonous noxious or pollutants to the environment.
34. The *Applicant* shall make an application to the *State Board* in the prescribed form for renewal of the consent at least **120 (One hundred and twenty) days** before the date of expiry of this Consent.
35. The *Applicant* shall not make any alternation/modification/expansion in the existing manufacturing process and equipment as well as the pollution control system without prior approval of the Board.
36. The *Applicant* shall comply with the conditions as laid down in the Manufacture, Storage and Import of hazardous Chemicals Rules, 1989 and Hazardous Wastes (Management & Handling) Rules, 1989.

Additional Conditions

Please see annexure attached.

(Member Secretary/Chief Engr./ Sr. Env. Engr. / Env. Engr. / Asst. Env. Engr.)
Chief Engineer

West Bengal Pollution Control Board

CHWTSDF Division

The installed and operating capacity of the TSDF shall be as under :-

[a] Secured Landfill	120,000 MT/Year.
[b] Incineration	10,800 MT/Year.
[c] Waste Stabilisation (Landfill after treatment)	60,000 MT/Year.

Solid Waste Recycling & Processing Division

The installed and operating capacity of recycling waste paper baled - 20,000 MTA.

The installed capacity for production of organic compost – 480 MT per month.

Plastic Waste Recycling & Processing Division

The installed and operating capacity of recycling waste Plastic granules - 20,000 MTA.

CBWTSDF Division

The installed and operating capacity of the CBWTSDF shall be as under :-

- [a] Incinerator – 1500 Kg/hour (Common for incineration of hazardous as well as bio-medical waste)
- [b] Autoclave – 430 liter/day
- [c] Shredder – 40 Kg/hr.

For CHWTSDF

1. i) The TSDF shall cater to the requirements of environmentally sound management required under the Hazardous and Other Wastes (Management and Transboundary Movement) for the hazardous wastes generated by the industries possessing valid authorisation of West Bengal Pollution Control Board (WBPCB) and operating in the entire state of West Bengal.

The operator of the facility shall also comply with the terms and conditions of the NOC granted on 14/01/2013 and on 25.07.2011 for collection, reception and transportation of Incinerable Hazardous Wastes from Orissa and Sikkim respectively to West Bengal for incineration and safe disposal of incineration ash in the landfill facility.

2. The generators of the hazardous wastes utilizing the common facility of TSDF at Haldia are to pay the costs to the TSDF Operator.
3. The Operator of the TSDF shall accept the wastes covered only under the HOWM Rules, 2016.

4. Laboratory

The laboratory shall have the capability to carry out the comprehensive and finger print parameter(s) analysis as may be necessary for treatment and disposal of the hazardous wastes. Any additional instruments/equipments required for sampling, storage, transportation, analysis etc. shall also be procured by TSDF Operator.

5. Transportation of Wastes

The TSDF Operator shall also be responsible for safe transportation of hazardous wastes as "transporter", from authorized Hazardous Waste generators/occupiers to the TSDF at Haldia, Dist. Purba Medinipur, West Bengal. The transportation vehicles and containers shall be suitably designed to handle the hazardous wastes. The transporter shall comply with the provisions under Motor Vehicles Act (MVA), 1988; as amended and rules made thereunder.

The TSDF operator shall be responsible for clean up and remedial operation in case of spillage, leakage or any other accidental/incidental discharge of hazardous wastes at its own cost and shall keep the WBPCB suitably informed.

The transporter shall be responsible for maintaining the manifest system. Apart from the operator, the generator of hazardous waste may also transport their hazardous waste to the TSDF engaging separate transporter. Such transporter should be duly authorised by WBPCB.

1
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West Bengal Pollution Control Board

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6. The operator shall obtain relevant information in Form -9 from occupier, regarding the hazardous nature of the wastes and measures to be taken in case of an emergency.
7. The operator shall not carry out reprocessing of any hazardous wastes.
8. The operator shall maintain proper record for receipt and delivery of the Hazardous Wastes. This record shall be made available during inspection by the Board's Officials & other concerned Government Officials, if necessary.
9. It shall be the responsibility of the operator to take all steps to ensure that the waste listed in Schedule- I & II are properly handled and transported without any adverse effects on the environment.
10. The transporter shall be liable for damages caused to the environment resulting due to improper handling & / or transport of hazardous wastes and shall be liable to reinstate or restore damaged and destroyed elements of the environment.
11. The labeling and packaging of Hazardous Wastes shall be easily visible and shall be such as to withstand physical conditions and climatic factors. The transporter shall comply with the guidelines for packaging, labeling and transportation for Hazardous Wastes given as under :-

A. PACKAGING:-

The transporter shall ensure that the hazardous wastes are packed, based on the composition in a manner suitable for handling and transportation.

The containers must be able to withstand normal handling and retain integrity. In general, packaging for hazardous substances must meet the following requirements:

- i) Items must be of such a strength, construction and type as not to break open or become defective during transportation.
- ii) Items must be constructed and closed in a manner to prevent spillage of hazardous substances.
- iii) Re-packaging materials including fastening must not be affected by the contents or form a dangerous combination with them.

The containers when used for packaging of the Hazardous Wastes should meet the following requirements: -

- a) It should be leak proof;
- b) In general, containers for liquid Hazardous Waste should be completely closed
- c) Container should be covered with solid lid or canvas to avoid emissions, spillage, dust and to minimise odour generation both at the point of loading as well as during transportation;
- d) Container should be easy to handle during transportation and emptying the hazardous wastes.
- e) As far as possible, manual handling of containers should be minimised. Appropriate material handling equipment shall be used to load, transport and unload containers. Drums should not be rolled on or off vehicles.
- f) Where 2-tier or 3-tier storage is envisaged, the frame should have adequate strength to hold the containers;
- g) Loads are to be properly placed on vehicles. Hazardous Waste containers are not to overhang, perch, lean or be placed in other unstable position. Load should be secured with straps, clamps, braces or other measures to prevent movement and loss. Design of the container should be such that it can be safely accommodated on the transport vehicle.
- h) Dissimilar wastes shall not be collected in the same container. Wastes shall be segregated and packed separately. This is necessary to ensure that each waste finds its way to the right disposal pathway;
- i) Occupier/Hazardous Waste generator shall not resort to the dilution of wastes.

B. LABELING :-

2 Chief Engineer

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hazardous

All hazardous wastes containers shall be provided with a general label as given in Form-12 of Hazardous Waste Rules.

There are two types of labeling requirements:-

- a) Labeling of individual transport containers and
- b) Labeling of transport vehicle.

All hazardous wastes containers must be clearly marked with current contents. The marking must be water proof and firmly attached so that they cannot be removed. Previous content labels, when different, should be obliterated. Proper marking of containers is essential.

Containers that contain Hazardous Waste must include the words "HAZARDOUS WASTE". The information on the label must include the i) code number of the waste, ii) the waste type and the origin (name, address, telephone number of generator), hazardous (e.g. flammable) and the symbol for the hazardous property (e.g. the red square with flame symbol).

The label must withstand the effect of rain and sun.

Following are the requirements for labeling:-

- a) The label should contain the name and address of the waste management Facility where it is being sent for treatment and final disposal;
- b) Emergency contact phone numbers shall be prominently displayed. For example State Pollution Control Board, Fire Station, Police Station;

C. TRANSPORTATION:-

Following are the requirements pertaining to the transportation of hazardous wastes: -

- a) PUCC (Pollution Under Control Certificate) shall be properly displayed.
- b) Vehicle should be painted preferably in same colour with strip in bright colour (preferably yellow or white) of 15 to 30 cm width running centrally all over the body. This is to facilitate easy identification as Hazardous Waste carriage vehicle.
- c) Vehicle should be fitted with mechanical handling equipment as may be required for safe handling and transportation of the waste;
- d) The words "HAZARDOUS WASTE" shall be displayed on all sides of the vehicle.
- e) Name of the facility operator or the transporters the case may be shall be displayed.
- f) Emergency phone numbers and TREM Card shall be displayed properly;
- g) Vehicle shall be fitted with roll-on/roll-off covers if the individual containers do not possess the same.
- h) Carrying of passengers except in the cabin and those working with the waste haulers, shall be strictly prohibited.
- i) The Transporter shall not accept hazardous waste from an occupier/generator for storage, treatment for disposal unless it is accompanied by six copies of the manifest (Form 13) as per the colour codes. The transporter shall give two copies of the manifest signed and dated to the generator/occupier and retain the remaining four copies to be used as prescribed in Rule 21 of the HW rules in following manner.

Copy number with colour code	Purpose
Copy 1 (white)	To be forwarded by the occupier to the WBPCB.
Copy 2 (yellow)	To be retained by the occupier after taking signature on it from the transporter and rest of the four copies to be carried by the transporter.
Copy 3 (pink)	To be retained by the operator of the facility after signature.
Copy 4 (orange)	To be returned to the transporter by the operator of facility after accepting waste.
Copy 5 (green)	To be returned by the operator of the facility to WBPCB after treatment and disposal of waste.
Copy 6 (blue)	To be returned by the operator of the facility to the occupier after treatment and disposal of wastes.
Copy 7 (Grey)	To be sent by the operator to WBPCB of the occupier in case the occupier is in another State.

Signature

Chief Engineer
West Bengal Pollution Control Board

- j) The trucks shall be dedicated for transportation of Hazardous Wastes and they shall not be used for any other purpose;
- k) Each vehicle shall carry first aid kit and fire extinguisher;
- l) Educational qualification for the driver shall be minimum of 10th pass (SSC). Driver(s) shall be properly trained for handling the emergency situations and safety aspects involved in the transportation of Hazardous Wastes;
- m) The design of the trucks should be such that it should prevent spillages during transportation.
- n) Transporter shall promptly attend spillages / accidents, if any, by providing suitable remedial actions as may be required and shall inform concern agencies the occupier, WBPCB & Police.
- o) Exposure of community to the odor, spillages and emissions from Hazardous Waste shall be avoided during transportation.

12. Incinerator

The Incinerator must be able to treat combustible and organic hazardous wastes.

The Air Pollution Control System consisting of Spray Drier, Multiple Cyclone Separators, Reagent Injection system, Bag filter and Scrubber followed by a chimney of height 35.5 meters from G.L. with stack sampling arrangements for the emissions from the rotary kiln and secondary combustion chamber shall be operated and maintained continuously.

Wastes containing adsorbable organics generated from the Pollution Control Equipments connected to the incinerator shall be disposed to the landfill facility only after proper stabilization and the other remaining wastes shall be directly disposed at the common landfill facility.

Flue Gas Emission Standards

Gaseous Emission Norms for Common Hazardous Waste Incinerators notified as Environment (Protection) Fifth Amendment Rules, 2008 dated June 26, 2008:

1	2	3	4	5
		A. Emission		
	Common hazardous Waste Incinerator		Limiting concentration in mg/Nm ³ , unless stated	Sampling Duration in (minutes) unless stated
		Particulate Matter	50	30
		HCL	50	30
		SO ₂	200	30
		CO	100	30
			50	24 hours
		Total Organic Carbon	20	30
		HIF	4	30
		NO _x (NO and NO ₂ expressed as NO ₂)	400	30
		Total dioxins and furans	0.1 ng TEQ/Nm ³	8 hours
		Cd+ Th + their compounds	0.05	2 hours
		Hg and its compounds	0.05	2 hours
		Sb + As + Pb + Co + Cr + Cu + Mn + Ni + V + their compounds	0.05	2 hours
	Notes:			
	i. All monitored values shall be corrected to 11 % oxygen on dry basis.			
	ii. The CO ₂ concentration in tail gas shall not be less than 7 %.			
	iii. In case, halogenated organic waste is less than 1 % by weight in input waste, all the facilities in twin chamber incinerators shall be designed to achieve a minimum temperature of 950 0C in secondary combustion chamber and with a gas residence time in secondary combustion chamber not less than 2 (two) seconds.			
	iv. In case, halogenated organic waste is more than 1 % by weight in input waste, waste shall be incinerated only in twin chamber incinerators and all the facilities shall be designed to achieve a minimum temperature of 1100 0C in secondary combustion chamber with a gas residence time in secondary combustion chamber not less than 2 (two) seconds.			
	v. Incineration plant shall be operated (combustion chambers) with such temperatures, retention time and turbulence, as to achieve Total Organic Carbon (TOC) content in the slag and bottom ashes less than 3 %, or their loss on ignition is less than 5 % of the dry weight.			

13. Waste acceptance criteria for disposal of hazardous wastes into the secured landfill is placed in Table- 1 below.

Leachate Quantity	Concentration
pH	4 - 12
Total Phenols	< 100 mg/l
Arsenic	< 1 mg/l
Lead	< 2 mg/l
Cadmium	< 0.2 mg/l
Chromium-VI	< 0.5 mg/l
Copper	< 10 mg/l
Nickel	< 3 mg/l
Mercury	< 0.1 mg/l
Zinc	< 10 mg/l
Fluoride	< 50 mg/l
Ammonia	< 1,000 mg/l
Cyanide	< 2 mg/l
Nitrate	< 30 mg/l
Adsorbable organic bound Chlorine	< 3 mg/l
Water soluble compounds except salts	< 10%
Calorific value	< 2500 K. Cal /kg
Strength	
Transversal strength (Vane Testing)	> 25 KN/m ²
Unconfined Compression Test	> 50 KN/m ²
Axial Deformation	< 20%
Degree of Mineralization or Content of Organic Materials (Original Sample)	
Annealing loss of the dry residue at 550°C	< 20% by weight (for non-biodegradable waste)
	< 5% by weight (for biodegradable waste)
Extractable Lipophilic contents (Oil & Grease)	< 4% by weight

- Leachate quantity is based on Water Leach Test.
- Calorific value of the landfillable hazardous wastes should be less than 2500 K. Cal/Kg

14. Daily discharge effluent shall not exceed:

	Industrial Liquid effluent	Domestic Liquid effluent	Mixed (industrial & domestic) liquid effluent
Source	Landfill leachate, Tyre wash, Vehicle wash & laboratory wash	Canteen, Drinking, Washing, Bathing	
Quantity	3 KL	9.6 KL	
Place of discharge	Incinerated in the Rotary Kiln of Incinerator	Soakpit	

15. The Applicant shall maintain the quality of liquid effluents so that it should conform to the Standard for final effluent as mentioned:

Nature of Effluent	pH	BOD	COD	TSS	O & G
Domestic	5.5 to 7.5	30 mg/l	250 mg/l	100 mg/l	10 mg/l

16. **DG Set conditions:** -

The unit shall obtain clearance from the Directorate of Electricity for using the one DG set of 500 KVA and two D.G Sets of capacity 125 KVA each within 60 days from the date of issue of this certificate.

The standard/guideline for control of noise from stationery DG Set prescribed under the Notification of MOEF, Govt. of India, GSR 371 (E) dated 17.05.2002 and its amendment should be followed. The unit should install DG Set compliant with the said Notification.

Nuisance in the surrounding area should not be caused due to operation of the DG set and/or failure of electric power supply.

17. Whenever due to any accident or any other unforeseen acts emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith reported to the Board, and other relevant authorities like Police Station, Department of Explosives, Inspectorate of Factories, Municipal authority, Local body etc.

18. The TSDF Operator shall strictly comply with all the conditions of Environment Clearance granted by Department of Environment, Govt. of West Bengal.

19. The applicant shall maintain the generation and treatment/disposal of hazardous waste as specified below:

Type of waste	Quantity	Treatment	Disposal
Oil soaked cotton waste	0.50 MT/month	-	Common Hazardous Waste Incinerator
Used Oil	130 litres/month	-	To be sold to registered reprocessors of CPCB
Incineration Ash	88.02 MT/month	-	Disposed to Hazardous Waste landfill
Bag Filter discharge of Incinerator	21.48 MT/month	-	Stabilized and disposed to Hazardous Waste Landfill

20. The applicant shall provide ports in the chimney(s) and facilities such as ladder, platform etc. for monitoring the air emissions and the same shall be open for inspection to / and for use of the Board's Officials. The chimney(s) vents attached to various sources of emission shall be designed by numbers such as S-1, S-2, etc and these shall be painted/displayed for easy identification.

The TSDF Operator shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise to less than 75dB(A) during day time and 70 dB(A) during night time. Daytime is reckoned in between 6 a.m. and 10 p.m. and nighttime is reckoned between 10 p.m. and 6 a.m.

The TSDF Operator should not cause any nuisance in the surrounding area.

21. Monitoring

Monitoring Protocol for the Common TSDF Operators and HW Incinerators

1.0. Ambient Air Quality Monitoring:

(a) Number of Monitoring Stations: Air quality monitoring stations at upwind, downwind and at three stations at 120° angle around the TSDF is necessary. The locations of air quality monitoring stations will depend on the stack height and location of any particular ecologically sensitive feature around the disposal facility. Location of air quality monitoring stations may be decided by the operator of the TSDF in consultation with SPCB/PCC.

(b) Additional Parameters to be monitored: Apart from the standard parameters stipulated under the National Ambient Air Quality Standards (NAAQS), additional parameters, namely, Total Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAH), to align the monitoring Programme with the potential impacts of TSDF operations, should be monitored.

(c) Frequency of Ambient Air Quality Monitoring:

- Parameters, namely, SPM, RPM, NO_x and SO_x should be continued to be monitored as per NAAQS criteria (minimum of 104 measurements in a year taken twice a week, 24 hourly).
- In addition, VOCs (total), and PAH should be monitored at least twice in a year (pre-monsoon and post-monsoon).

2.0. Monitoring of Stack Gaseous Emission from Incinerator:

(a) Parameters to be monitored and the frequency:

It is recommended to carryout quarterly monitoring of the stack gaseous emission for the parameters as stipulated under the gaseous emission norms notified under the Environment (Protection) Fifth

Chief Engineer
West Bengal Pollution Control Board
26/1/19

Amendment Rules, 2008 dated 26 June 2008. However, SO₂, NO_x, HCl and CO to be monitored continuously using on-line monitoring system.

3.0. Ground Water Monitoring:

It is recommended to monitor ground water characteristics at least once in a quarter.

(a) Parameters to be analyzed: It is recommended that ground water should be analyzed for pH, Colour, EC, Turbidity (NTU), SS, TDS, TOC, COD, heavy metals (such as Pb, Cd, Cu, Zn, Cr, Hg, Ni), Fe, CN, F, As and Mn, Cl, NO₃, SO₄, TKN, Total Alkalinity, Total hardness and Total Pesticides.

(b) Sampling Locations: It is recommended that the ground water samples should be collected from the six monitoring borewells within the TSDF boundary and other wells at least up to a distance of 5 KM from the TSDF location.

The directions of the ground water flow have to be established in consultation with the State Ground Water Board or any other authority. The ground water flow direction has to be ascertained periodically and reported at least once in three years so as to know any changes in the ground water flow directions due to any changes in the local conditions such as draw down of ground water.

4.0. Surface waters: Monitoring of surface waters (nullah/ river, impoundments) at upstream and downstream and in adjoining area is necessary at least once in a quarter. It is also necessary to collect the sample of benthal deposit of the stream upto a distance of 500 m from the TSDF. It is recommended that the surface water samples should be analyzed for pH, Colour, EC, Turbidity (NTU), SS, TDS, TOC, DO, BOD, COD, heavy metals (such as Pb, Cd, Cu, Zn, Cr, Hg, Ni), Fe, CN, F, As and Mn, Cl, NO₃, SO₄, TKN, Total Alkalinity, Total hardness.

5.0. Soil samples Monitoring:

(a) Parameters to be analyzed: It is recommended that the soil samples should be analyzed for pH, EC, Colour, TDS, TOC, TSS, PAH, heavy metals (such as Pb, Cd, Cu, Zn, Cr, Hg, Ni), CN, F, As and Mn.

(b) Sampling Location & Frequency of Sampling: At least one number of composite soil sample is required to be collected upto a depth of 1 m beneath the soil surface for every grid size of 250 X 250 m up to a radius of 500 m from the centre of the TSDF. It is recommended that the soil samples should be collected and analyzed for the suggested parameters at least once in a year i.e. pre-monsoon.

6.0. Biological indicator:

Plantations of locally available sensitive plants to be made in all directions of the TSDF and at different distances and to observe and record periodically the health of each plant.

22. Emergency Preparedness Plan:

The TSDF Operator shall prepare an on-site emergency plan and provide adequate training to the staff at the facility. The emergency preparedness plan shall be made available during inspection by the Board's Officials.

23. Closure & Post Closure facilities

20.1 The facility shall be guarded for a period of 30 years after closure. Monitoring shall be continued to check for leakages and remedial measures.

20.2 The closed site will have to be looked after to avoid any disturbances created by run on and run off storm waters, stray cattle's and ignorant persons. A fenced area with security is an essential part along with routine monitoring and efforts. A closure and post closure plan will have to be prepared which will include the following:

- a. A description how each of the units in the CHWTSDF will be closed
- b. A description of how final closure of the entire CHWTSDF will be conducted
- c. An estimate of the leachates and other hazardous waste residues that may be generated in site at any time during closure / post closure life of CHWTSDF.
- d. A description of the steps needed to remove or decontaminate all hazardous waste residues generated during post closure period of the operations.

Chief Engineer
West Bengal Pollution Control Board

28/1/19

- e. A sampling and analysis plan to know as to how much decontamination will be necessary.
- f. A timetable of commencement of closure start up and completion.

20.3 In practice the post closure care shall include:

- a. Elimination of all free liquid by either removing the liquid wastes / residues from landfill / impoundment or by solidifying them.
- b. Stabilization of the remaining waste and waste residue to a bearing capacity sufficient to support a final cover.
- c. Installation of final cover that provides long-term minimization of infiltration into the closed unit.
- d. In course of time, the material inside a landfill is likely to face setting or subsidence in a small way. The cover be such that all such subsidence of support, it should not get cracked but its integrity be maintained.
- e. Provide drainage diversion to prevent any run-off.
- f. To grow an appropriate vegetation on the top of the cover.

20.4 An Escrow Account shall be opened and maintained by the operator of the facility for post closure monitoring of the Treatment Storage and Disposal Facility.

24. Record Keeping

A day-to-day record with weekly, monthly, quarterly and annual extracts is required. Operator shall have to device a separate format for daily record or logbook. This shall include:

- a. Hazardous waste generation
 - Category number
 - Category
 - Origin of manufacturing activity
- b. Description of hazardous waste
 - Physical form
 - Chemicals form
 - Quality (volume & weight)
- c. Details of
 - Daily method of storage of hazardous waste
 - Daily method of treatment of hazardous waste
- d. Details of transportation
 - Name and address of consignee of package
 - Mode of packing
 - Mode of transportation
 - Date of transportation
 - Quantity transported
- e. Details of disposal of hazardous waste (date-wise)
 - Date of disposal
 - Concentration of hazardous material in the final waste form
 - Site of disposal (identify the location on the relevant layout drawing for reference)
 - Method of disposal
- f. Data on environmental surveillance
 - Date of measurement
 - Ground water (sampling location, depth of sampling, results)

- Soil (sampling location, depth of sampling results)
- Air (sampling location, data)
- Any other (keep record)
- g. Details of waste disposal operations
- h. Description of hazardous waste
 - Physical form and contents
 - Chemical form
 - Total volume of hazardous waste disposed
 - No. of packages
- i. Mode of transportation of the site of disposal
- j. Site of disposal
- k. Brief description of method of disposal
- l. Date of disposal
- m. Remark (like discrepancy in manifest etc.)
- n. Accident reporting
 - Date and time of accident
 - Sequence of event leading to accident
 - Name of hazardous waste involved in the accident
 - Chemicals data-sheet assessing effect of accident on health and environment
 - Emergency measures taken
 - Step to prevent recurrence of such wastes
- o. The operating agency shall also maintain a record of inspectors and visits of officials from WBPCB, CPCB, Factory inspector, MoEF & local authorities. This shall be followed by compliance reports.

25. Safety, security, contingency plans, risk management and emergency procedures-

- 26.1 Safety – safe work environment shall be considered, provided and maintained for the staff by Operator. Safety and security considerations shall be made for all facts like loading, transportation and unloading of hazardous waste, spill control, treatment and disposal, laboratory and also in the post closure period. Personal protection equipment, and fire control system shall be provided at site. Training and mock drills etc. shall be conducted with staff for emergency situations. A complete primary health unit with medicines / antidotes would have to be provided as per the Factory Act, 1948 and 1987. Aspects like ventilation, illumination and safe duration of working hours would also have to be considered. Periodical check-up of health shall be undertaken and the persons kept shall be rotated. This should also cover other emergencies like snakebite or sabotage.
- 26.2 Security – Entry of persons or livestock shall be prevented both during operations and post closure period. Artificial barriers like fence, water towers should be provided. Entry gates shall be minimum and preferably be one only apart from emergency gates. Cautionary boards in appropriate language and in readable letter size shall be displayed at various locations within and on the periphery of the CHWT/SDF. Register of entry and exist shall be maintained.
- 26.3 Risk Management, Contingency Plans & Emergency Procedures – An on-site contingency plan and emergency procedure shall be prepared and approved from district emergency officer who in turn will prepare the off-site management plan. The contingency plan shall describe the responses in case of fires, explosion, unforeseen acts or event, sudden releases due to natural calamity. The strategic administrative arrangements with local police fire dept, medical facilities of the area, departments dealing in safety, health & environment issues and revenue authorities shall be designed. Latest phone and fax numbers of concerned authorities shall be printed and displayed. Evacuation plan with evacuation route shall be demonstrated by mock drills. Documentation should be immediately prepared for benefit of future planning.

Chief Engineer
West Bengal Pollution Control Board

26. Public Consultation

Precaution will have to be taken by the operator to satisfy any peculiar situation as may be demanded by the people relating to aesthetics, discomfort etc., Regular public consultation and awareness programme shall be undertaken.

27. Greenbelt

A green belt of 10 meters should be provided at the periphery of the site to have better visual impact, to protect the surrounding environment by abating gaseous and particulate pollution as well as reduce the noise levels and to protect area from the cyclonic winds. The plant species should be as per EIA, and MoEF / CPCB guidelines.

Storage at Generator's Premises

It is the responsibility of the Operator to inform the Generator about incompatible wastes, so that the generator may take precautions against mixing or storing of such wastes. The Operator shall have to educate the Generator's staff to make on-site storages in separate containers that may be supplied by the Operator. The volume of specific type of waste and carting cycle shall govern the size of the containers, drums, trolleys etc. While considering this, the Operator shall see that problems, like odour, surface water contamination, groundwater percolation etc. do not occur.

Spillage Handling

Spillages during handling should be avoided by adopting good housekeeping practices and upkeep of storages/handling equipment. Operator would have to train transporting staff and provide them with instructions to use the TREM (Transport Emergency) Cards to deal with fires and accidents and should equip them with road signs, placards, etc. This aspect should also be covered under the insurance scheme.

The Operator shall immediately inform the concerned SPCB and other regulatory authorities in case of spillage, leakage or other accidents during transportation.

Waste Treatment / Stabilization

The treatment/stabilisation operations will be carried out for all wastes identified for the purpose so as to minimise their contaminant leaching potential. The treated wastes will be assessed for compatibility with other wastes as with liner system used before being land-filled.

The term treatment/stabilisation is intended to cover a number of mechanisms including:

- (a) Immobilization/Chemical Fixation: The chemical binding of contaminants within a cementing structure to reduce the mobility or leachability of the waste constituents
- (b) Encapsulation: The occlusion or entrapment of contaminant particles within a solid matrix
- (c) Solidification: The conversion of slurries that do not readily de-water into solids, by addition of solidification and absorption agents.

General Operations for waste treatment /stabilisation may include:

- (a) Receiving waste and its storage at designated place
- (b) Reagent addition as per the pre-estimated quantities
- (c) Mixing and curing
- (d) Thermal treatment to remove moisture, organics etc.
- (e) Analysis of the stabilized sample
- (f) Transfer of stabilized material to landfill

The above process operations generally have the potential to create gaseous and particulate emissions into the air. This can be controlled by proper management practices including masking (and would have to be properly managed).

Ambient odour due to TSDF operations has to be neutralised by the operator.

Placing bulk, containerised, or non-containerised liquid hazardous wastes containing free liquids (whether or not absorbents have been added, liquids that have been absorbed in bio-degradable materials and liquids that have been stabilised by adsorbents but will release liquids when compressed under normal pressure that might occur during and after land filling) in the landfill is prohibited regardless of the length of time, presence of liners or leachate collection system.

Hence, the Operator shall use the Paint Filter Liquid Test (PFLT) to comply with this requirement. This test determines whether the waste can be accepted for landfilling. If the waste does not pass the PFLT, it must be treated before it can be placed in the landfill.

Waste treatment/stabilisation would have to be performed on all wastes that find their final disposal into the secured landfill but do not meet the landfill disposal criteria.

Storage at TSDF

Separate area shall be earmarked for storing the waste at TSDF. The storage area may consist of different cells for storing different kinds of hazardous wastes. In designing these cells, the following points may be taken into consideration:

- (a) That ignitable, reactive and non-compatible wastes shall be stored separately.
 - (b) That wastes containing volatile solvents or other low vapour pressure chemicals shall be adequately protected from direct exposure to sunlight
 - (c) The storage area shall have a proper containment system. The containment system shall have a collection area to collect and remove any leak, spill or precipitation.
 - (d) It shall be designed in such a way that the floor level of the storage area is at least 150 mm above the maximum flood level.
 - (e) The operator shall put in place a system for inspection of the storage area to check the conditions of the containers, spillages, leakages etc and maintain proper records as may specified by the concerned SPCB in the authorization to operate TSDF.
 - (f) The TSDF operator shall comply with the "Guidelines for Storage of Incinerable Hazardous Wastes by the Operators of Common Hazardous Waste Treatment, Storage and Disposal Facilities and Captive HW Incinerators" published by the CPCB in November, 2008.
28. The unit must comply with the condition given in NOC Sl. No. N0154301 for manufacturing/production of plastic granules and bailing of waste paper.
29. The unit must comply with the condition laid down in BMW Rules, 2016.

For Solid Waste & Plastic Waste Recycling & Processing Division

- 1. For recycling or processing of Solid Waste (bailing of waste paper) all the provisions of Solid Waste Management Rules, 2016 to be followed.
- 2. For recycling or reprocessing of waste plastic (production of waste plastic granules) all the provisions of Plastic Waste Management Rules, 2016 to be followed.
- 3. The unit shall comply with the conditions of the NOC issued vide Memo No. 26/2S(NOC) - 2575/2009(Pt. -I), dated 08.02.2018.

For CBWTSDF

1. The operator shall follow the guidelines prepared by CPCB or BMW Rules, 2016 prepared by MoEF for treatment, storage disposal of bio-medical waste generated from different health care institution, veterinary institutions, animal houses, pathological laboratories, blood banks, ayush hospitals, clinical establishments, research or educational institutions, health camps etc.

Standards for Incineration

- a) All incinerators shall have combustion efficiency at least 99.00%.
- b) The temperature of the primary chamber shall be a minimum of 800 OC and the secondary chamber shall be minimum of 1050 OC + or - 50 OC.
- c) The secondary chamber gas residence time shall be at least two seconds.

Common Bio-medical Waste Incinerator Emission Standard

1	Parameter	Standards	
	2	3	4
		Limiting concentration in mg Nm ³ unless state	Sampling Duration in minutes, unless stated
	Particulate Matter	50	30
	HCL	50	30
	NOx (NO and NO ₂ expressed as NO ₂)	400	30
	Total dioxins and furans	0.1 ng TEQ/Nm ³	8 hours
	Hg and its compounds	0.05	2 hours
	Notes:		
	i. All monitored values shall be corrected to 11 % oxygen on dry basis.		
	ii. The CO ₂ concentration in tail gas shall not be less than 7 %.		

11 **Chief Engineer**
 West Bengal Pollution Control Board 25/1/19

	<p>iii. In case, halogenated organic waste is less than 1 % by weight in input waste, all the facilities in twin chamber incinerators shall be designed to achieve a minimum temperature of 950 0C in secondary combustion chamber and with a gas residence time in secondary combustion chamber not less than 2 (two) seconds.</p> <p>iv. In case, halogenated organic waste is more than 1 % by weight in input waste, waste shall be incinerated only in twin chamber incinerators and all the facilities shall be designed to achieve a minimum temperature of 1100 0C in secondary combustion chamber with a gas residence time in secondary combustion chamber not less than 2 (two) seconds.</p> <p>v. Incineration plant shall be operated (combustion chambers) with such temperatures, retention time and turbulence, as to achieve Total Organic Carbon (TOC) content in the slag and bottom ashes less than 3 %, or their loss on ignition is less than 5 % of the dry weight.</p>
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Standards for Autoclaving of bio-medical waste.-

The autoclave should be dedicated for the purposes of disinfecting and treating bio-medical waste.

- (1) When operating a gravity flow autoclave, medical waste shall be subjected to:
 - (i) a temperature of not less than 121° C and pressure of 15 pounds per square inch (psi) for an autoclave residence time of not less than 60 minutes; or
 - (ii) a temperature of not less than 135° C and a pressure of 31 psi for an autoclave residence time of not less than 45 minutes; or
 - (iii) a temperature of not less than 140° C and a pressure of 52 psi for an autoclave residence time of not less than 30 minutes.
- (2) When operating a vacuum autoclave, medical waste shall be subjected to a minimum of three pre-vacuum pulse to purge the autoclave of all air. The air removed during the pre-vacuum, cycle should be decontaminated by means of HEPA and activated carbon filtration, steam treatment, or any other method to prevent release of pathogen. The waste shall be subjected to the following:
 - (i) a temperature of not less than 121°C and pressure of 15 psi per an autoclave residence time of not less than 45 minutes; or
 - (ii) a temperature of not less than 135°C and a pressure of 31 psi for an autoclave residence time of not less than 30 minutes;

Standards for liquid waste.-

- (1) The effluent generated or treated from the premises of occupier or operator of a common bio medical waste treatment and disposal facility, before discharge into the sewer should conform to the following limits

Parameters permissible limits

- a. pH - 6.5-9.0
- b. Suspended solids - 100 mg/l
- c. Oil and grease - 10 mg/l
- d. BOD - 30 mg/l
- e. COD - 250 mg/l
- f. Bio-assay test 90% survival of fish after 96 hours in 100% effluent.

- (2) Sludge from Effluent Treatment Plant shall be given to common bio-medical waste treatment facility for incineration or to hazardous waste treatment, storage and disposal facility for disposal.
- (3) The unit should comply with the Guidelines / Notification issued from MoEF/CPCB.WBPCB in this regard.
- (4) This consent certificate shall be revoked subject to any valid public complaint lodged against the unit for creating environmental hazards and violation of any of the environmental norms.

For and on behalf of the


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West Bengal Pollution Control Board.
Chief Engineer
West Bengal Pollution Control Board